



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/926,143 | 09/10/2001 | Haruhiko Hirosuc | P100158-00043 | 9383 |

7590 05/19/2004
RADER, FISHMAN & GRAUER, PLLC
1233 20TH STREET, N.W., SUITE 501
WASHINGTON, DC 20036-5339

EXAMINER

KRUEER, KEVIN R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1773

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,143

Applicant(s)

HIROSUE ET AL.

Examiner

Kevin R Kruer

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 20, 2004 has been entered.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. Applicant claims foreign priority to Japanese Application 2000-4209 filed 01/13/2000.

Drawings

3. The drawings filed September 10, 2001 are acceptable.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP0392674 (herein referred to as Anthony) in view of Sado et al (US 4,971,748).

Art Unit: 1773

6. Anthony teaches a process and apparatus for the production of a shaped polyimide sheet. The process includes the steps of supplying a polyimide sheet from a roll (col 2, line 53+), placing the sheet on a shaped surface of a die, sealing the sheet edges to the die, applying a vacuum between the die surface and the sheet to draw the sheet into contact with the shaped surface to impart the required shape to the sheet, placing the die and sheet in a gas containing autoclave whilst maintaining said vacuum, raising the temperature and pressure in the autoclave, and reducing the temperature and pressure in the autoclave to ambient pressure (abstract). A vacuum pump is attached to the die assembly and the air is extracted from between the sheet and the die (col 3, lines 10+). The vacuum is accomplished by a number of perforations on the die that allows the air between the overlying sheet and the die to be removed (col 4, lines 44+). At the same time, the internal air pressure of the autoclave is raised at a pre-determined rate to the desired elevated pressure (col 3, lines 27+). Thus, a pressure difference is provided relative to the polyimide. The temperature is raised by heating the gas in the autoclave to the desired temperature (col 3, lines 20+). Said method reads on the claimed "contactless heating" because Applicant teaches that "contactless heating" includes heating the air around the polyimide (see page 10 of specification)." The temperature is then allowed to fall at a predetermined rate to the desired lower value (col 3, lines 36+). Said method results in the polyimide sheet taking the shape of the die (col 3, lines 34+). The shaped polyimide is then removed by any suitable way (col 3, lines 52+).

Herein, the roll taught by Anthony is understood to read on the claimed "supply mechanism." Furthermore, the teaching of sealing the sheet edges to the die is relied upon to teach the claimed "so as to tightly close the open end thereof." The elevation of pressure in the autoclave is understood to read on the claimed "pressurizing a space on the opposite side relative to the polyimide film." Furthermore, said autoclave is understood to read on the claimed "pressing die." Specifically, it meets applicant's requirements of the pressing die in that it covers the open end of the molding die (paragraph 22). Said autoclave also meets Webster's Dictionary's definition of a die—"a device for imparting a desired shape, form, or finish to a material or for impressing and object of material." The examiner also takes the position that the teaching of allowing the temperature to "fall at a predetermined rate" reads on applicant's claimed "cooling portion" of claim 4. The teaching of removing the shaped sheet by "any suitable way" is understood to read on the claimed "take out mechanism" of claims 11 and 12.

With respect to claims 5 and 6, the limitations "for use in illumination equipments" is understood to be an intended use limitation. The examiner takes the position that the recited intended use DOES NOT result in a structural difference between the claimed invention and the prior art because the recited intended use in no way limits the structure that the claimed polyimide film may have. Thus, the film taught by Anthony is capable of performing the intended use as recited in the preamble.

Anthony teaches that the die may have any convenient configuration (col 3, lines 3+). The deformations of the die may vary in shape and depth (col 4, lines 14+). However, Sado teaches that it is desirable to shape polyimide sheets to give said sheet

Art Unit: 1773

convexity or concavity (col 1, lines 13+) in order to form cups or containers (col 1, lines 30+). Therefore, it would have been obvious to utilize a convex or concave die in order to obtain a polyimide sheet that may be used as a cup or container.

Allowable Subject Matter

7. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed February 20, 2004 have been fully considered but they are not persuasive.

Applicant argues that the current claims are drawn to a polyimide molding product that are required to possess high surface accuracy such as an illumination reflector board whereas Anthony is drawn to the molding of products such as cushion sheets. The examiner initially notes that the features upon which applicant relies (i.e., the end use of the polyimide sheet) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the examiner notes that the method claims have not been distinguished at this point in prosecution from the method taught in Anthony. Thus, there is no reason to conclude that the claimed method will inherently result in surface properties different than the surface properties than the method of Anthony.

Art Unit: 1773

Applicant further argues that the sheet of Anthony is not subject to contactless heating. The examiner respectfully disagrees. Anthony teaches that the temperature of the mold is raised by heating the gas in the autoclave to the desired temperature (col 3, lines 20+). Said method reads on the claimed "contactless heating" because Applicant teaches that "contactless heating" includes heating the air around the polyimide (see page 10 of specification)."

Applicant further argues that the polyimide sheet of Anthony is contacted on projections. However, the projections are not a required part of the mold and are only used for illustration purposes. Anthony teaches that the die can have any convenient configuration (col 3, lines 4).

Applicant further argues that the claimed process can be practiced with compression/decompression forces of as little as 4.4bars. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the sum of the compression and decompression forces) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The polyimide of Anthony, according to Applicant, is not plasticized during heating. The examiner respectfully disagrees. The purpose of heating the polyimide is to plasticize the film. Furthermore, the examiner notes that the heating temperatures

Art Unit: 1773

taught by Anthony (col 3, lines 18+) are inclusive of the heating temperature utilized in the inventive examples.

Applicant further argues that the autoclave does not read on the claimed pressing die because it does not seize the polyimide film. However, the claims do not require the pressing die to seize the polyimide film. The claims only require that the pressing dies is disposed to the open end of the molding die and that the polyimide film is seized. Anthony teaches both limitations. Specifically, Anthony teaches an autoclave that reads on the claimed pressing die and that the edges of the polyimide sheet are sealed to the die,

With respect to Sado, Applicant argues that the film is subjected to press stretching. The examiner notes that Sado was never relied upon to teach a method of molding the polyimide film. Sado was relied upon only to teach the desirability of a concave molding die. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Thus, Applicant's arguments are not persuasive.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 3,687,594 teaches the traditional method by which plastic sheets are molded.

Art Unit: 1773

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 571-272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin R. Kruer
Patent Examiner-Art Unit 1773